

REMARKS

In the outstanding Official Action, the specification was objected-to as lacking a proper Abstract. Claim 28 was objected-to for lack of indentation of a limitation. Claims 8-9 were rejected under 35 U.S.C. §112, second paragraph, as indefinite. Claim 28 was rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

Claims 1-8, 12-15 and 17-28 were rejected under 35 U.S.C. §102(e) over SOUTAR (U.S. Patent No. 6,219,794). Claims 10, 11 and 16 were rejected under 35 U.S.C. §103(a) over SOUTAR et al. in view of CHAN et al. (U.S. Patent No. 5,987,153). Claim 9 was rejected under 35 U.S.C. §103(a) over SOUTAR in view of BANG et al. (U.S. Patent No. 5,715,325).

Upon entry of the present Amendment, Applicants will have provided a new Abstract that corresponds to the Abstract in the International Application published as WO/0014716. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the specification.

Additionally, each of the claims will have been amended to more clearly recite the features of the claimed invention, as well as to ensure that features of the claims are not interpreted as "steps-of" recitations. Applicants particularly note that claims 8, 9 and 28 will have been amended to eliminate informalities and to ensure that antecedent basis is provided for each element recited therein. In view of these amendments to claims 8, 9 and 28, Applicants respectfully request reconsideration and withdrawal of the objection to claim 28 and the rejection of claims 8-9 under 35 U.S.C. §112, second paragraph.

Furthermore, claim 28 will have been amended to recite a “computer readable medium storing a computer program” to ensure that the claimed subject matter is presented in a format presently accepted under 35 U.S.C. §101 by the U.S. Patent and Trademark Office. In view of this amendment to claim 28, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 28 under 35 U.S.C. §101.

Claim 18 will have been amended to depend directly from claim 1. Accordingly, independent claims 1, 22, 23 and 28 are now pending.

Applicants respectfully traverse the rejection of claims 1-8, 12-15 and 17-28 under 35 U.S.C. §102(e) over SOUTAR. With respect to the rejection of claims 1, 22, 23 and 28, the outstanding Official Action asserts that SOUTAR discloses (variously at column 2, line 28 to column 3, line 20; at column 15, lines 20-62; and/or at column 19, lines 1-42) that biometrics data is stored in associative memory. In this regard, Applicants note that claim 1 recites "storing the bit pattern in associative memory", and claims 22, 23 and 28 each recite similar limitations.

Applicants respectfully submit that the outstanding Official Action is in error. In particular, SOUTAR does not disclose or suggest using associative memory, let alone storing biometric data in associative memory. In this regard, "associative" memory is typically accessed by content, and information stored in associative memory is typically distributed in a manner similar to the way information is distributed in a human brain. In contrast, random access memory is typically accessed by address, and information stored in conventional memory is typically distributed in a manner similar to the way information is

distributed in a filing cabinet.

SOUTAR does not specify the use of a particular form of memory, let alone disclose any form of associative memory. Instead, SOUTAR relies on using a protected filter in the form of a phase-only filter that is stored in a conventional computer storage means. Of course, a conventional computer storage would be expected to use memory that is accessed by address, and SOUTAR provides no teaching that anything other than conventional memory is used.

SOUTAR discloses the use of a phase-only filter at column 2, line 28 to column 3, line 20 (applied by the Examiner). Additionally, SOUTAR does not disclose any feature relevant to a particular form of memory, let alone associative memory, at column 15, lines 20-62 or column 19, lines 1-42.

Accordingly, Applicants respectfully submit that SOUTAR does not disclose or suggest storing biometrics data in associative memory. In particular, there is no disclosure or suggestion in SOUTAR that associative memory is used, should be used, or even could be used. Accordingly, Applicants respectfully submit that the inventions recited in claims 1, 22, 23 and 28 are not disclosed or suggested by SOUTAR.

Applicants further submit that the inventions recited in claims 1, 22, 23 and 28 are not disclosed or suggested by a combination of SOUTAR and any other reference that makes use of an associative memory. In this regard, the outstanding Official Action notes that CHAN discloses storing data in a cache that is structured in the form of a Hopfield matrix neural network. However, the only motivation to modify the teachings of SOUTAR with the

teachings of CHAN (i.e., to assertedly obtain the invention recited in claim 1) is merely impermissible hindsight motivation. In particular, the references applied by the Examiner do not provide any motivation to replace the form of memory in SOUTAR with associative memory, particularly as SOUTAR attached no importance to the type of memory utilized.

Applicants further note that the invention defined in the present independent claims relates to a method of generating a key. Furthermore, each of the claims requires that the key be generated from a bit pattern that is recalled from associative memory. In this regard, the present invention stores data in associative memory as a security measure. In contrast, CHAN merely teaches the possibility of storing various test signatures in a cache in a neural network.

Accordingly, the benefits available with the associative memory recited in the present claims are not the subject of any teaching in CHAN. In this regard, the present invention distributes sensitive information in an associative memory so as to be "hidden" and protected from attack. In contrast, CHAN does not store data in a cache in a neural network for the purpose of avoiding an attack that releases data. Instead, CHAN teaches storing various test signatures in a cache in a neural network so as to obtain the advantages of the usual and well-understood characteristics of a neural network, i.e., analysis and recognition of shapes and patterns that ordinary computer software has problems in recognizing. Thus, neural networks would be well suited to recognizing patterns in the test signatures stored in the cache of CHAN and in helping to decide whether or not a subsequent signature is too close or too different with respect to any of the test signatures. However, the purpose of providing

a neural network in CHAN (i.e., recognizing patterns in test signatures) would not apply to the teachings of SOUTAR, and accordingly would not lead one to modify the teachings of SOUTAR.

In contrast to CHAN, the present invention uses a neural network in the form of associative memory as a security measure. In this regard, rather than using a neural network to analyze and recognize information as in CHAN, the present invention requires that sensitive information be distributed in the associative memory so as to be "hidden" and therefore protected from attack. Accordingly, the reasoning provided by CHAN for using a neural network would not lead to modification of SOUTAR such that the invention recited in the present claims could be obtained. Accordingly, Applicants respectfully submit that the modification of SOUTAR to use associative memory would not be obvious to a person of ordinary skill in the art.

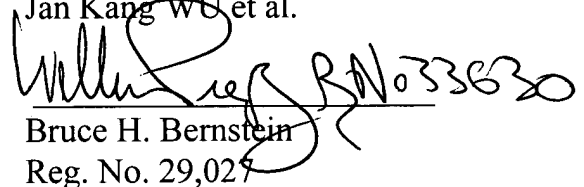
SUMMARY AND CONCLUSION

Applicants believe that the present application is in condition for allowance, and respectfully request an indication to that effect. Applicants have amended the claims to more clearly recite the features of the present invention. Applicants have also added an Abstract. Further, Applicants have discussed the features recited in Applicants' claims and have shown how these features are not disclosed, suggested or rendered obvious by the references applied in the outstanding Official Action.

Any amendments to existing claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the below listed telephone number.

Respectfully submitted,
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